

#### **Amendments to the Specification:**

Please insert the following new paragraphs (excluding line numbers) after the paragraph ending on page 10, line 16:

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Please insert the following new paragraphs (excluding line numbers) after the paragraph ending on page 60, line 5:

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Various other embodiments are illustrated in Figs. 34, 35a-35g, 36a-36g, and 37a-37b in accordance with various features of the disclosure.

Figure 34 includes an interactive submenu, which includes an example of taking a complete television program video, scaling it down to a smaller size and directing the video into a video window of a submenu. The process for creating the interactive submenu in figure 34 may include selecting a video channel, decompressing the video channel, scaling the video to change its size, and redirecting the video to change its location.

Figures 35a through 35g and Figures 36a through 36g, show how menus are generated in more detail by the set top terminal 220. Figures 35a through 35g display the building of a major menu screen for the category hit movies. Figure 35a shows the background graphics for the hit movie

24 major menu. The background graphics 1500 comprise an upper sash 1502  
25 across the top of the screen and a lower sash 1504 across the bottom of the  
26 screen. The background graphics are generated from the background  
27 graphics file 800 in the memory files of the graphics memory (preferably  
28 EEPROM) 620. In particular, the hit movie major menu background  
29 graphics are located in the universal main menu backgrounds subfile 804 of  
30 the background graphics file 800. This universal major menu background  
31 graphic 1500 is consistently used in nearly all the major menus.

32 Figure 35b shows the logo graphics for the hit movie major menu.  
33 The logo graphics 1508 for this major menu consist of an icon window  
34 1510 , a cable company logo 1512 in the lower left-hand portion of the  
35 screen, a channel company logo 1514 in the upper right-hand part of the  
36 screen and two "go" buttons 1516. The icon graphics 1510 are consistently  
37 shown in each of the major menus. The cable company logo 1512 is  
38 consistently shown in the lower left-hand part of the screen in nearly every  
39 major menu. These logo graphics 1508 are created from the logo graphics  
40 file 820 in the EEPROM 620. In particular, the cable company logo 1512 in  
41 the lower left-hand corner of the screen is located in The Your Choice TV  
42 logos 824 part of the logo graphics file. The network logo 1514 in the upper  
43 right-hand corner of the screen is generated from the network logo file 828  
44 of the logo graphics file 820. The "go" buttons 1516 are generated from the  
45 graphic elements file 840 of the logo graphics file 820.

46 Figure 35c shows the addition of menu displays 1520 to the hit  
47 movie major menu. In particular, Figure 35c shows a ten block main menu  
48 display 1520 and a strip menu 1522 in the lower part of the screen. The ten  
49 display blocks 1520 of Figure 35c are generated from the menu display  
50 block's subfile 854 of the menu display and cursor graphics file 850 shown

51       in Figure 10. The strip menu 1522 located on the lower part of the screen is  
52       also generated from the menu display block's subfile 854.

53       Figure 35d shows the addition of a cursor highlight overlay 1526 to  
54       the hit movie major menu. The cursor highlight overlay 1526 is generated  
55       from the cursor highlight overlay's submenu 858 of the menu display and  
56       cursor graphics file 850 shown in Figure 10. In the preferred embodiment,  
57       the cursor highlight overlay 1526 is shown by default to be in the upper  
58       left-hand menu display block of each major menu. This cursor highlight  
59       overlay 1526 can be moved on the screen by the subscriber using his cursor  
60       movement buttons 970.

61       Figure 35e shows the text 1530 generated for the hit movies major  
62       menu. In the preferred embodiment, the text 1530 is generated separately  
63       by a text generator in the set top terminal unit 220. Those portions of the  
64       text that generally remain the same for a period of weeks or months may be  
65       stored in EEPROM 620 or other local storage. For example, the text "HIT  
66       MOVIES from" 1531 will consistently appear on each hit movies' major  
67       menu. This text may be stored on EEPROM 620 or other local storage.  
68       Further, text such as that which appears at the lower center part of the  
69       screen "PRESS HERE TO RETURN TO CABLE TV" 1532 appears many  
70       times throughout the menu sequence. This text may also be stored locally at  
71       the set top terminal 220. Text which changes on a regular basis, such as the  
72       movie titles (or other program selections), will be transmitted to the set top  
73       terminal 220 by either the operations center 202 or the network controller  
74       214 of the cable headend 208. In this manner, the cable headend 208 may  
75       change the program selections available on any major menu 1020 by  
76       modifying the program control information signal sent by the operations  
77       center 202 and transmitting the change via the STleIS. It is preferred that

78        the text 1530 be generated separately from the graphics because the text  
79        can be stored locally in a more compact manner requiring less storage  
80        space. In addition, it allows for easy communication of text changes from  
81        the operations center 202 or cable headend.

82        In alternative embodiments, portions of the text, particularly those  
83        portions which remain constant, may be incorporated into the graphics and  
84        stored in either the background graphics file 800 or the logo graphics file  
85        820.

86        Figure 35f shows the addition of day 1534, date 1536 and time 1538  
87        information to the hit movies major menu. This information may be  
88        obtained in a variety of ways. The day, date, and time information 1540  
89        may be sent from the operations center 202, the cable headend (signal  
90        processor or network controller 214), the uplink site, or generated by the set  
91        top terminal unit 220 internally. Each manner of generating the day, date,  
92        and time information 1540 has advantages and disadvantages which may  
93        change given the particular embodiment and costs. In the preferred  
94        embodiment, the day, date, and time 1540 are generated at a central  
95        location such as the operations center and are adjusted for regional changes  
96        in time at the cable headend.

97        Figure 35g shows the results of the information in Figures 35a to 35f  
98        being integrated in the combiner 624 and then displayed on the television  
99        screen 222. The subscriber in viewing the hit movie major menu 1040 is  
100        unaware of the fact that the menu comprises several distinct part.

101        Figures 36a through 36g show the creation and display of a program  
102        description submenu for a hit movie. Similar to the major menu, the  
103        submenu is created in parts and combined before being sent to the  
104        television screen. Figure 36a shows the background graphics 1550 for the

105 program description submenu. In the preferred embodiment, the upper sash  
106 1552 and lower sash 1554 of the background graphics 1550 are stored  
107 together in one location on the EEPROM 620. The video window and half-  
108 strip window 1558 are also co-located in storage on the EEPROM 620. The  
109 half-strip window 1558 beneath the video window serves 1556 as a means  
110 for describing the videos shown in the video window 1556. Both sets of  
111 graphic information 1550, the sashes 1552, 1554 and video window 1556  
112 with description 1558, are located in the universal submenu backgrounds  
113 subfile 808 of the background graphics file 800. Both sets of backgrounds  
114 appear in many menus and are used many times during a sequence of  
115 menus.

116 Figure 36b shows the additional logo graphics information 1508  
117 needed to create the program description submenu. In the preferred  
118 embodiment, the "go" logo 1516 can be stored once in memory 620 and  
119 directed to the correct portion of the screen in which it is needed for a  
120 particular memo. Similar to Figure 35b, the information needed to create  
121 the "your choice" logo 1512 and "go" buttons 1516 is stored in the logo  
122 graphics file 820.

123 Figure 36c shows the addition of menu display information 1520 for  
124 the program description submenu. Similar to Figure 35c, the information  
125 needed for Figure 36c menu display blocks is stored in the menu display  
126 blocks' subfile 854 of the menu display and cursor graphics 850. In this  
127 particular submenu, there are three menu display blocks of rectangular  
128 shape.

129 Figure 36d shows the addition of cursor highlight overlay  
130 information 1526 for the program description submenu. This information is  
131 obtained from the cursor highlight overlay submenu 858. For most major

132        menus 1020 and submenus 1050, only one cursor highlight overlay 1526  
133        will appear on the screen at a given time. More cursor highlight overlays  
134        1526 will appear on a screen when the subscriber is presented with more  
135        than one question. The number of cursor highlight overlays 1526 will  
136        generally correspond with the number of questions being presented to the  
137        subscriber on the menu. The cursor highlight overlay 1526 is generally  
138        assigned a default position on each menu screen and is moved by the  
139        subscriber using either the remote control 900 or the buttons 645 located at  
140        the top of the set top terminal 220.

141        Figure 36e shows the text generation 1530 necessary for the program  
142        description submenu for a hit movie. As in Figure SSe, some of the text for  
143        the program description submenu is consistently on each program  
144        description submenu, such as "PRESS HERE TO RE1URN TO CABLE  
145        TV." This textual information may be stored locally as opposed to being  
146        derived from the STTCIS. Regardless of where the text information is  
147        stored, it must be processed through the text generator 621 before being  
148        sent to the combiner 624.

149        Figure 36f shows the addition of video 1560 to the video window  
150        1556. In an alternative embodiment, the video shown in the program  
151        description submenu is a still picture. The still picture may be stored in a  
152        compressed format (such as JPEG) at the set top terminal 220. These video  
153        stills 1560 that are used on program description submenus as well as other  
154        menus, may be transmitted by the operations center 202 through the  
155        program control information signal from time to time.

156        In the preferred embodiment, the video window 1556 shows a  
157        moving video picture. For the hit movies category, the moving video  
158        picture may be obtained directly from a current feed of the described

159 movie. For example, the movie video 1560 shown may be taken directly off  
160 of a channel which is currently showing the movie Terminator. The set top  
161 terminal 220 would decompress the channel with the movie Terminator and  
162 then manipulate the video signal to place it in the video window 1556. This  
163 manipulation of the video signal includes scaling down the size of the video  
164 screen and redirecting the video to a portion of the menu screen which is  
165 within the video window of the menu.

166 Another method of getting the moving video to the video window  
167 portion of the submenu, is to obtain the video from a split screen channel.  
168 This method involves the use of split screen video techniques to send  
169 multiple video clips on a single channel at a given time. For example, a  
170 channel may be divided into eight portions of screen space and one of the  
171 eight positions may carry the Terminator video clip. The set top terminal  
172 220 would decompress the channel and manipulate on the one-eighth  
173 portion of the screen desired in the video window of the submenu. The set  
174 top terminal 220 would scale the one-eighth picture, if necessary, and  
175 redirect it to the correct position on the screen using known scaling and  
176 positioning techniques. Additional circuitry may be required in the set top  
177 terminal 220 to perform adequate scaling and repositioning.

178 Figure 36g shows the final product resulting from the combining of  
179 Figures 36a through 36f. The combiner 624 integrates each of these  
180 portions of information into a single menu screen 1120.

181 The combiner 624 which displays the menus on the television screen  
182 obtains information primarily from three locations, the graphics generator  
183 622, the text generator 621, and the video decompressor 618 (with other  
184 video manipulation equipment, if necessary). The graphics generator 622  
185 primarily obtains information from the graphic memory unit 620 but may

186 receive information in the STTCIS. The text generator 621 primarily  
187 receives its information from a separate memory for text. However, in  
188 certain embodiments the text information may be stored in the graphics  
189 memory 620 or may be taken directly off the STTCIS. The video signal  
190 which is sent to the combiner 624 may come directly from one or more  
191 video decompressors or ancillary video manipulation equipment.

192 One of the methods for video clips or promotional video to be sent to  
193 the set top terminal 220 is through the use of split screen video techniques.  
194 Figure 37a shows the throughput of a single channel using a split screen  
195 video technique to divide the channel into four parts. In this manner, four  
196 different video clips may be simultaneously sent on a single channel.  
197 Program description submenus can acquire one of the video dips shown on  
198 the split channel at any given time. Generally, this requires the set top  
199 terminal 220 to decompress the entire channel, acquire one-fourth of the  
200 video information, scale the video (if necessary), and redirect the video.  
201 Using this split screen technique 1602, numerous video clips may be sent  
202 over a limited number of channels.

203 Figure 37b shows an embodiment 1604 in which forty eight different  
204 video dips are sent simultaneously on a single channel using split screen  
205 video techniques. In this embodiment, the video signal may need to be  
206 scaled upwardly to enlarge the picture for viewing in a video window or on  
207 a full screen.

208 In an alternative embodiment, which avoids the need for redirecting  
209 video into the portion of the screen which houses the video window 1556,  
210 masking and menu graphics are used to cover the portions of the channel  
211 video that are not needed. This masking technique allows the split screen  
212 video to remain in the same portion of the screen that it is transmitted by

213        the operations center. The masking then is adjusted to cover the undesired  
214        portions of the screen. These masks would be stored in the background  
215        graphics file 800 similarly to other background files for menus. The  
216        advantage of the system is the cost savings in not needing to redirect video.  
217        The disadvantage of the system is that the video window on a description  
218        submenu, for example, would not remain in the same location from menu to  
219        menu. This inconsistency in video window location detracts from the  
220        aesthetically pleasing aspects of the menu layouts.

221        If the masking technique were used in conjunction with the split  
222        screen video shown in Figure 37a, each submenu would have  
223        approximately one-quarter screen of video and three-quarter screen of  
224        graphic and text information. For example, a submenu or promo menu for a  
225        basketball game would mask all but the upper right-hand corner of the  
226        screen. Following masking, other background graphics 1550, logo graphics  
227        1508, menu display 1520, cursor graphics 1526, and text information 1530  
228        would be overlayed over the three-quarter mask. In a similar manner, a  
229        submenu or promo menu for a hockey game would also have a three-  
230        quarter mask. This three-quarter mask would mask all but the lower right-  
231        hand corner of the screen. Again, the remaining menu graphics, logos and  
232        textual information would overlay the three-quarter mask. As you can see  
233        from this example, four different three-quarter masks must be stored in the  
234        background graphics file 800 for use in the four possible video window  
235        positions.

236        The split screen video technique may also be used for promoting  
237        television programming. Since a great number of short video clips may be  
238        sent continuously (such as in Figure 37b), full or partial screen  
239        promotionals (or informationals) may be provided to the subscriber. With

240        this large quantity of promotional video, subscribers may be given the  
241        opportunity to “graze” through new movie or television programming  
242        selections. The subscriber would simply graze from promotional video to  
243        promotional video until he found the television program of his liking. Once  
244        he has found that program he may choose to order it.